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ABSTRACT

The instructional effectiveness of videotaped instruction in basic oral English to non-English speaking, adult speakers of Spanish is the focus of this report. A field testing program involving subjects who had been exposed to the films developed by the Southwestern Cooperative Educational Laboratory ascertains the effectiveness of the lessons in each of the films in terms of predetermined behavioral objectives. Three testing conditions were envisaged and are examined in this study: a classroom condition with video exposure only; a classroom condition with video exposure and followup drills by an instructor; and a home condition with video exposure only. This four-part report covers: (1) principal features of the field testing program, (2) criterion variables and statistical design, (3) statistical analysis and findings, and (4) summary, conclusions, and recommendations. Appendixes contain a sample field testing instrument and various statistical tables. (RL)

ED050615

THE RELATIVE EFFECTIVENESS OF THREE VIDEO ORAL ENGLISH INSTRUCTIONAL CONDITIONS FOR ILLITERATE OR UNDEREDUCATED NON-ENGLISH SPEAKING, SPANISH SPEAKING ADULTS

A Report of Statistical Findings and Recommendations
Based on a Field Testing Study

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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by

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Southwestern Cooperative Educational Laboratory, Inc.

June, 1969

FL 001 968

[redacted]

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The field testing of five Video Oral Language Tapes (developed by the University of Arizona in conjunction with the SWCEL) was primarily a Laboratory undertaking; however, the total scheme would have been impossible without the cooperation and participation by people from other agencies, institutions, and geographical areas.

The field testing instrument was designed and pilot tested by a committee selected by the Laboratory. In this respect, a note of appreciation is extended to Dr. Guido Capponi (University of Arizona), Dr. Horacio Ulibarri (University of New Mexico), William McGuy (PROTEUS Project, Visalia), Edward Casavantes, Lenin Juarez, and Felipe Gonzales, of SWCEL.

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A. A. Valencia, Coordinator
Field Testing Program

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THE RELATIVE EFFECTIVENESS OF THREE VIDEO ORAL ENGLISH INSTRUCTIONAL CONDITIONS FOR ILLITERATE OR UNDEREDUCATED NON-ENGLISH SPEAKING, SPANISH-SPEAKING ADULTS

Principal Features of the Field Testing Program

Background

The Southwestern Cooperative Educational Laboratory has assumed the role of a systems manager to develop and produce components for a prototype instructional package that will attack problems common to the undereducated and illiterate Spanish-speaking adult. The development, production, evaluation, and dissemination of this instructional package has been promoted over a multi-state region with the Laboratory serving as the coordinator. SWCEL identified and enlisted the cooperative efforts, on a subcontractual basis, of various agencies and institutions.

One of the first major thrusts has been the development and production of basic oral English lessons for non-English speaking, Spanish-speaking adults. Television was the medium chosen. Because educational programs via television often are based on an outmoded, traditional instructional approach, it was conceived that a new and dynamic approach was needed to arouse and maintain the interest of the target population. The University of Arizona conceptualized the development of such a program, which would incorporate animation, choreography, and other entertaining elements as part of the instructional features of the lessons. SWCEL envisioned this approach as having the potential of reaching a large segment of the target population, and has combined efforts with the University of Arizona to test its instructional effectiveness.

During a 1968 ABE Conference at SWCEL, portions of the first 10 video tapes developed by the University of Arizona (project year 1967-68) were reviewed by some of the conference participants. Based on the feedback provided from these observations, a proposal was formulated for a more careful critique of the tapes followed by suggested revisions.

As a consequence, the University of Arizona undertook a critical review of the first 10 tapes. For example, a consultant-evaluative conference was held in Tucson on November 7-8, 1968, to permit assessment of the video tape series by professional linguists, television experts, psychologists, sociologists, and teachers. At the session's conclusion, the consultants submitted written and oral reports stating their views, opinions, criticisms, and judgments. Revision of the tapes and subsequent production was based partly on this type of evaluation.

The production plan was to complete 15 video tapes by June of 1969, with five revised tapes to be finished by February, 1969. This plan would assure the availability of the first five video tapes for field testing early in 1969.

The principal objective in the field testing scheme conducted by SWCEL was to ascertain the instructional effectiveness of the tapes in terms of behavioral objectives incorporated in the lessons. The experimental design was formulated on the hypothesis that this innovative approach would effect significant gains in English oral language usage and comprehension among non-English speaking, Spanish-speaking adults.

Development of English Proficiency Instrument

During December of 1968 and January, 1969, a committee was selected by the Laboratory to construct and pilot test an instrument for use in the field testing program. This committee was composed of Dr. Guido Capponi (University of Arizona), Edward Casavantes, Felipe Gonzales, Lenin Juarez, and Dr. Atilano Valencia all of SWCEL, and Dr. Horacio Ulibarri (University of New Mexico). Special reference was given to the behavioral objectives in the video lessons, as well as some of the cartoon characterizations in the dialog. The linguistic patterns in the instrument were based on oral language patterns and drills provided in the lesson content. Thus, rather than adopting a test that had little relationship to the objectives and content of the instructional program, an instrument with a close relationship to the video presentations was designed.

A pilot test to ascertain the relevancy and effectiveness of the instrument among non-English speaking, Spanish-speaking adults was undertaken by the Laboratory in January, 1969. Any items which appeared irrelevant or unclear to the adult learner were revised or deleted. The scoring scale was revised to facilitate administering and scoring of the test. Thus, the pilot testing of the instrument proved to be a highly important preliminary phase of the field testing program; it provided basic information which resulted in a more relevant and effective field testing instrument for illiterate or undereducated, non-English speaking adults in this experimental study.

Hypotheses, Testing Conditions, and Sampling

Three hypotheses in the experimental scheme were envisioned: (1) video exposure, in itself, will result in a significant learning effect among non-English speaking, Spanish-speaking adults; (2) video exposure, coupled with follow-up oral reinforcement drills by an instructor, will result in a significantly higher learning effect as compared with conditions one and three in the experimental design; and (3) video exposure in the learner's home environment will result in a greater learning effect as compared with conditions one and two in the experimental design.

A fourth testing condition was envisaged. This would incorporate related paper and pencil materials as a follow-up instructional scheme. These materials were unavailable at the time of field testing, but are being developed by the West Texas Education Service Center at Midland and will be available for field testing in the project year 1969-70.

Based on the foregoing rationale, the following testing conditions were established:

1. Classroom condition with video exposure only
2. Classroom condition with video exposure and follow-up drills by an instructor
3. Home condition with video exposure only

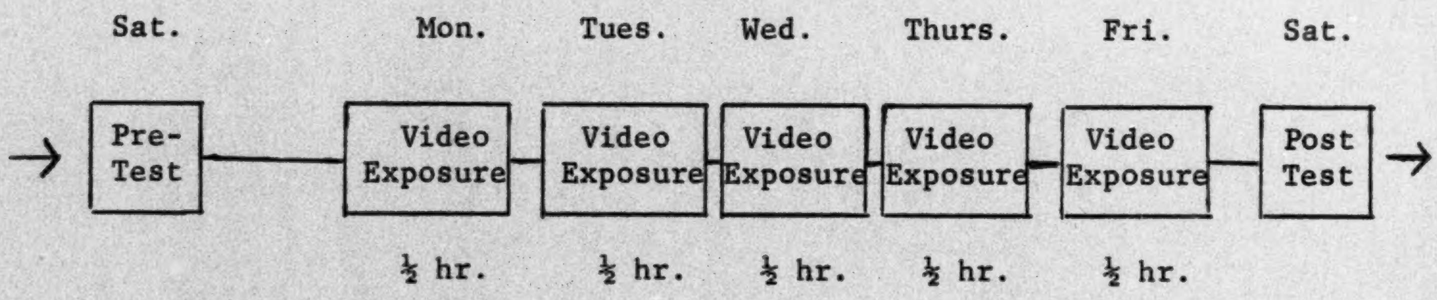
Six geographical areas were selected to represent the target population: Santa Maria and San Diego, California; Tucson and Phoenix, Arizona; Lubbock and El Paso, Texas. Both rural and urban Spanish-speaking people were included in the total sample. The number of subjects in each setting was 90-150, with 35-70 adults randomly selected for each treatment condition. Each geographical area included the three treatment conditions in the research design.

The Laboratory undertook field testing of the first five video tapes between February 15 and March 7, 1969. The sampling population was to include undereducated or illiterate, non-English speaking, Spanish-speaking adults (age 18-65). The primary purpose was to test the effectiveness of English oral language instruction, using an innovative instructional scheme (e.g., animation, choreography, and other entertaining elements) via television.

Field Testing Plan

Because of the time factor, the entire five tape series was presented in five consecutive days. The plan was to complete the pretesting of the population by the Saturday prior to video exposure, with post-testing commencing immediately following the final video exposure. Figure 1 provides a simple illustration of the video and testing exposure.

FIGURE 1


Sat.
Mon.
Tues.
Wed.
Thurs.
Fri.
Sat.
Pre-Test
Video Exposure
Video Exposure
Video Exposure
Video Exposure
Video Exposure
Post Test
½ hr.
½ hr.
½ hr.
½ hr.
½ hr.

In addition to the five one-half hour video exposures, Treatment Group Two was given an additional half hour of instruction (oral language drills) immediately following each video exposure. In every case, the instruction was related to the lesson covered in the video program.

Prior to testing, teams were selected and trained to administer and coordinate the field testing in each area. Each team consisted of at least five members. Their roles and responsibilities were:

1. Area Coordinator: To identify the target population in his geographical area, to enlist the services of a local television station on a community service basis, to enlist the cooperation of a community agency in providing the evening facilities for the testing, and to ascertain that the small testing program was carried forth in his locality.
2. Field Testing Coordinator: To ascertain that the test instruments (survey questionnaire, pre-test and post-test) were at hand prior to field testing, to conduct the survey (enlisting and ascertaining the assignment of subjects to each treatment group), to assure that pre-tests and post-tests were administered to the subjects in the treatment groups, and to categorize and return the data to the Laboratory.
3. Field Testing Aides (at least three): To assist the area coordinator in securing and arranging the facilities for field testing, to be present during each session so facilities and classroom arrangements were available to the students, and to assist the field coordinator in conducting the survey and administering the tests.

One of the above personnel was assigned as follow-up instructor for Treatment Condition Two, and at least one of the team members was present to assure the availability of facilities and equipment in time for each television program.

The first field testing team was selected and organized in Tucson. Three orientation meetings with the team members were conducted by SWCEL personnel. These served to introduce the field testing instruments and to explore plausible questions and problems that might be encountered in establishing the testing conditions and administering the tests. This made it possible to suggest some probable questions or problems that other field testing teams might encounter in their own settings. Moreover, it also was possible to propose approaches or alternatives for meeting general questions or problems that might arise in the different testing areas. For example, transportation for students and coordinators, TV time schedules, interview techniques, selection and arrangement of facilities, communication and enlistment of community agencies on a community service basis, compatibility of video tapes to local station equipment, length of testing (pre and post), deadlines for completing testing, selection and categorization of sampling groups, familiarity with testing conditions, role of the teacher in Treatment Condition Two, gathering and categorization of data, roles and responsibilities of team members, selection and application of media to enlist student participants, etc., were general questions and problems that each team had to discuss.

Subsequent to the Tucson meetings, Dr. Atilano Valencia and Lenin Juarez met with each field testing team to conduct orientation meetings and to train members in coordinating and administering the testing in each locality. All of these visitations and meetings were held between February 1-28, 1969.

These meetings were held one week prior to the field testing. This allowed time to conduct the pre-test prior to the first video exposure and assured recency of training among the teams.

One problem encountered in video tape production was the various types of television equipment available for field testing in the six geographical areas. Several weeks prior to the field testing, each area coordinator was requested to ascertain video tape specifications required by the television facilities in his locality. Consequently, tapes appropriate for use in commercial stations, educational television stations, and television recorders were produced. Additionally, two color films were prepared for standby purposes in the testing areas.

Criterion Variables and Statistical Design

Criterion Variables

The field testing instrument was designed to measure three criterion variables: Part 1 represented an opinion questionnaire to ascertain the adult learners' attitude toward acquiring and using English in various life situations, Part 2 presented several types of oral language patterns to determine the learner's level of attainment in English usage, and Part 3 incorporated different types of oral language patterns to ascertain the learner's level in achievement of oral English comprehension.

A four-point scale was provided to score the opinion questionnaire; this was classified according to a strong minus (1), mild minus (2), mild plus (3), and strong plus (4). The English usage and comprehension components of the test were rated according to a three point scale (0, 1, and 2). It was therefore possible to measure the student's English oral language usage and comprehension in terms of zero facility, limited facility, or acceptable. The absence of a response or an incomprehensible utterance was interpreted as a "0" rating, a response with some vocabulary omission and some mispronunciation was scored as 1, and a response which included all of the desired words in a phrase and correct pronunciation was scored as 2.

The numbers given in each test category were then added to indicate total scores on three criterion variables for each student: Attitudinal, English Usage, and English Comprehension. From this basic information, treatment group means were computed for each of the given test categories. With treatment group means available, an analysis of variance was possible as part of the research design.

Statistical Design

The purpose of this next section is to present relevant data collected from the testing in six geographical areas in this study, using three treatment conditions. The results given by a one-way analysis of variance, coupled with analysis of covariance wherever applicable, also are illustrated.

Data from the pre-test/post-test instrument were analyzed to determine the significant differences in achievement gain among the three treatment conditions in each geographical area. Similar analyses were performed to ascertain the significant differences in achievement gain among the three treatment conditions, using the total sampling in each condition. The total sampling involved five or six geographical areas.*

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*Although there were initially six geographical areas in the testing, post-test data from one treatment condition (video exposure without teacher) in one geographical area was not reported. This loss of data was attributed to a severe student attrition following the first two video programs.

A simple analysis of covariance was applied in the pre- versus post-test treatment of the data to equalize the pre-test scores among all treatment conditions. Thus, the data in this part of the statistical analysis show adjusted means based on this type of statistical treatment.

A one-way analysis of variance also was applied to determine the significant difference in oral English language achievement between the three treatment conditions in each geographical area. This same type of analysis was used to ascertain the significant difference between the treatment conditions, using the total sampling in each condition. The total sampling involved the populations in five or six geographical areas.

Data from the interviews were further categorized in terms of rural urban and sex. It was therefore possible to perform a secondary analysis to compare achievement in Oral English, using these given variables among the three treatment conditions and the total sampling.

Two important criterion measures were used: Oral English Usage (includes English verbal response) and Oral English Comprehension (English verbal response not required). Additionally, a pre-test/post-test opinion questionnaire was administered in two of the geographical areas to determine the student's attitude toward learning and application of English. This represented a third criterion measure but it has been treated as a secondary finding in this study.

Probability statistical measures were used to determine significance of difference in all of the treatment conditions. All were in reference to an F-table giving probability measures at the .05 or .01 confidence level.

STATISTICAL ANALYSIS AND FINDINGS

Differences Between Three Treatment Conditions Across Six Geographical Areas

Tables I, II and IV show the means and F ratios on two criterion variables, Oral English Usage and Oral English Comprehension. A one-way analysis of variance was used to determine the significant differences between three treatment conditions, followed by an analysis of covariance to adjust post-test means by equalizing the pretest means.

TABLE I

Pre-test and Post-test Means of Three Treatment Conditions Based on a One-way Analysis of Variance and Analysis of Covariance, Using Oral English Usage as a Criterion Variable

	Treatment Conditions			F-Ratios		
Criterion Test Means	I	II	III	One-way Analysis of Variance	Analysis of Co-variance	Prob-ability Findings
Pretest Means	10.24	8.87	13.96	16.23		**
Post-test Means	15.67	13.69	18.49	13.52		**
Adjusted Post-test Means	15.94	14.72	16.70		3.32	(NS)

** Denotes Significant Difference at .01 Level of Confidence
(NS) Denotes Insignificant Difference at .05 Level of Confidence

The foregoing table shows significant differences in Oral English Comprehension between three treatment conditions at the .01 level of confidence, prior to adjustment of post-test means by analysis of co-variance. But in comparing the differences between the three adjusted post-test means, no significant difference (.05 level of confidence) is indicated. Moreover, in a further analysis involving two of the three treatments, only a very small difference (.05 level of confidence) is noted between Conditions II and III; in this observation, the Class-Video with Teacher Condition is slightly higher. More importantly, it is observed that the means of Conditions I and II are relatively similar.

Table II illustrates the same type of relationship between three treatment conditions, using Oral English Comprehension as a criterion variable.

TABLE II

Pre-test and Post-test Means of Three Treatment Conditions Based on a One-way Analysis of Variance and Analysis of Covariance, Using Oral English Comprehension as a Criterion Variable

	Treatment Conditions			F-Ratios		
Criterion Test Means	I	II	III	One-way Analysis of Variance	Analysis of Co-variance	Prob-ability Findings
Pretest Means	12.72	10.90	18.82	23.63		**
Post-test Means	19.49	17.16	24.41	19.71		**
Adjusted Post-test Means	20.02	18.68	21.58		4.18	(NS)

** Denotes Significant Difference at .01 Level of Confidence
(NS) Denotes Insignificant Difference at .05 Level of Confidence

Table II shows significant differences in English Comprehension between the three treatments at the .01 level of confidence, prior to adjustment of means by analysis of covariance. The bottom column reveals no significant differences at the .05 level of confidence between the three conditions. But a more careful analysis, illustrated in Table III, shows Condition III significantly higher than Condition II at the .01 level of confidence. This relationship does not follow between Conditions I and III and treatments I and II. Again it is noted that treatments I and III produced very similar learning effects, given the two criterion variables in the aforementioned statistical illustrations.

TABLE III

Adjusted Post-test Mean Differences
Between Two Treatment Conditions,
Using Oral English Comprehension as
a Criterion Variable

Treatment Conditions	F-Ratios	Probability Findings
I versus II	2.30	(NS)
I versus III	2.56	(NS)
II versus III	8.32	**

** Denotes Significant Difference at .01 Level of Confidence
(NS) Denotes Insignificant Difference at .05 Level of Confidence

The findings given in Tables I, II and III clearly reveal the mean for the Class-Video with Teacher Condition higher than that given for the Class-Video without Teacher Condition. However, this comparative advantage is not noted between the Class-Video with Teacher Condition and the Home-Video Condition. Obviously, these findings point to particular advantages in selecting learning conditions for this medium of instruction. It must be stressed, however, that the Class-Video with Teacher Condition provided additional instruction to the population.

Differences Between Three Treatment Conditions in Each of Six Geographical Areas, Using Two Criterion Variables

Table IV shows Treatment Condition I (Home-Video) consistently higher as compared to Treatment Condition II (Class-Video without Teacher) on the first criterion variable, Oral English Usage; however, the difference appears to be significant at the .05 level of confidence only in Tucson (Area III). Condition III (Class-Video with Teacher) also appears significantly higher (.01 level of confidence) in Tucson and Santa Maria; however, the difference is reversed (.05 level of confidence) in San Diego (Area VI). Further, it is important to observe that no significant difference is apparent between Treatments I and III.

TABLE IV

Differences Between Three Treatment Conditions in Each of Six Geographical Areas Using Oral English Usage as a Criterion Variable

Areas	Adjusted Post-test Treatment Means			Significant Probability Findings
	I	II	III	
I	21.05	20.88		(NS)
	21.05		19.48	(NS)
		20.88	19.48	(NS)
II	13.07		14.52	(NS)
	(NI)		(NI)	
		(NI)	(NI)	
III	18.93	16.82		(NS)
	18.93		23.64	(NS)
		16.82	23.64	**
IV	18.15	14.99		*
	18.15		18.20	(NS)
		14.99	18.20	(NS)
V	10.34	9.21		(NS)
	10.34		13.93	(NS)
		9.21	13.93	**
VI	14.57	17.81		(NS)
	14.57		13.82	(NS)
		17.81	13.82	*

* Denotes Significant Difference at the .05 level of confidence

** Denotes Significant Difference at the .01 level of confidence

(NS) Denotes Insignificant Difference at the .05 level of confidence

(NI) Not Included in this Statistical Treatment Because of Excessive Student Dropout

Table V shows a very close relationship between the three treatment conditions, using Oral English Comprehension as a criterion measure. Significant differences (.01 level of confidence) appear in only two grographical areas (Tucson and Santa Maria); and in both of these cases, Condition III (Class-Video with Teacher) appears higher as compared to the two other conditions.

The statistical findings tend to favor the Class-Video with Teacher Treatment Condition; however, since this is not consistently apparent among all of the geographical areas, it can be concluded that the two other conditions need not be dismissed as possible instructional arrangements. This is especially noteworthy, for the Conditions I and II did not include additional language instruction by a teacher subsequent to each video exposure. In this sense, the implications clearly point in favor of Conditions I and II (Home-Video and Class-Video without Teacher).

TABLE V

Differences Between Three Treatment Conditions
in Each of Six Geographical Areas
Using Oral English Comprehension as a Criteria Variable

Areas	Adjusted Post-test Treatment Means			Significant Probability Findings
	I	II	III	
I	26.01	26.62		(NS)
	26.01		26.62	(NS)
		26.62	26.62	(NS)
II	17.16		18.50	(NS)
	(NI)			
		(NI)	(NI)	
III	20.55	23.50		(NS)
	20.55		30.67	**
		23.50	30.67	**
IV	22.00	18.45		(NS)
	22.00		22.16	(NS)
		18.45	22.16	(NS)
V	10.34	9.21		(NS)
	10.34		13.93	(NS)
		9.21	13.93	**
VI	23.55	25.13		(NS)
	23.55		22.32	(NS)
		25.13	22.32	(NS)

** Denotes Significant Difference at the .01 level of confidence
(NS) Denotes Insignificant Difference at the .05 level of confidence
(NI) Not Included in this Statistical Treatment Because of Excessive Student Dropout

Differences Between Six Geographical Areas Based on Three Conditions and Two Criterion Variables

To ascertain the differences between six geographical areas on each criterion variable, a one-way analysis of variance, coupled with an analysis of covariance to adjust post-test means by equalizing the pre-test means was applied.

Table VI provides Treatment I (Home-Video exposure) means for each geographical area and on two criterion variables; further, Table VII illustrates the significance of difference at the .05 or .01 level of confidence in relationship to the six geographical areas.

TABLE VI

Area Means on the Home-Video Treatment Condition and Two Criterion Variables

Areas	n	Oral English Usage			Oral English Comprehension		
		Pre-Mean	Post-Mean	Adjusted Mean	Pre-Mean	Post-Mean	Adjusted Mean
I	48	12.69	20.27	18.36	17.23	25.77	22.30
II	55	9.98	11.11	11.38	12.40	14.31	14.56
III	17	7.18	18.71	21.09	8.06	20.06	23.65
IV	55	11.38	18.25	17.36	13.58	22.58	21.92
V	31	4.77	9.68	13.94	4.65	11.03	17.25
VI	8	17.75	18.38	12.52	23.13	27.75	19.74

TABLE VII

Significant Differences Between Area Means in the Home-Video Treatment Condition and Two Criterion Variables

	Oral English Usage by Areas						Oral English Comprehension by Areas					
Areas	I	II	III	IV	V	VI	I	II	III	IV	V	VI
I		**			**	**		**			**	
II	**		**	**			**		**	**		*
III		**		*	**	**		**			**	
IV		**	*		*	*		**			**	
V	**		**	*			**		**	**		
VI	**		**	*				*				

* Denotes Significant Difference at the .05 Level of Confidence
** Denotes Significant Difference at the .01 Level of Confidence

Specifically, the two tables provide comparative data on relative achievement in Oral English Usage and Oral English Comprehension, based on Home-Video exposure in Lubbock (Area I), El Paso (Area II), Tucson (Area III), Phoenix (Area IV), Santa Maria (Area V), and San Diego (Area VI). Table VI reveals higher means on Oral English Usage for Areas I, III, and IV as compared to Areas II, V, and VI. Furthermore, Table VII shows these differences occurring at either the .01 or .05 level of confidence, with the majority of the results falling at the .01 probability level.

A similar relationship is apparent on the second criterion variable, Oral English Comprehension. However, it is interesting to note that higher means are found on this variable as compared to the former.

A closer observation shows Lubbock, Tucson, and Phoenix with the highest achievement means in Oral English Usage. It is noted that El Paso and San Diego, which are areas nearest to Mexico, scored lowest. Santa Maria, which represents a rural migrant population, also placed among the three lowest achievement population groups. This relationship also is evident on the second criterion variable, Oral English Comprehension; here, however, San Diego appears slightly but not significantly higher than Santa Maria.

It is important to keep in mind that pretest means varied from area to area; consequently, it was necessary to adjust this variable through analysis of covariance in order to give a more accurate post-test comparison.

Table VIII gives the means on the Class-Video without Teacher Condition for each geographical area, using two criterion variables (Oral English Usage and Oral English Comprehension). Table IX shows the significance of difference at the .05 or .01 level of confidence in relationship to the six geographical areas.

TABLE VIII

Area Means on the Class-Video without Teacher Condition in Terms of Two Criterion Variables

Areas	n	Oral English Usage			Oral English Comprehension		
		Pre-Mean	Post-Mean	Adjusted Mean	Pre-Mean	Post-Mean	Adjusted Mean
I	31	13.81	21.94	17.77	17.68	28.74	23.00
II	0	.00	.00	.00	.00	.00	.00
III	30	6.53	16.27	17.03	9.23	23.60	23.06
IV	35	9.83	13.89	12.62	9.69	15.86	15.93
V	59	3.27	8.47	12.00	3.32	8.56	13.26
VI	46	9.61	17.09	12.59	12.35	23.07	21.20

TABLE IX

Significant Differences Between Area Means in the Class-Video without Teacher Condition and Two Criterion Variables

	Oral English Usage by Areas						Oral English Comprehension by Areas					
Areas	I	II	III	IV	V	VI	I	II	III	IV	V	VI
I				**	**	**				**	**	
II												
III				**	**	**				**	**	
IV	**		**				**		**		*	**
V	**		**				**		**	*		**
VI	**		**							**	**	

* Denotes Significant Difference at the .05 Level of Confidence
** Denotes Significant Difference at the .01 Level of Confidence

These two tables show comparative data on the relative achievement on Oral English Usage and Oral English Comprehension between six geographical areas, based on Condition II (Class-Video without Teacher). Tucson (Area III), Phoenix (Area IV), and San Diego (Area VI) represent localities with higher means on the first criterion variable (Usage) as compared to Lubbock (Area I) and Santa Maria (Area V) respectively.

El Paso (Area II) is not represented because of excessive student attrition relative to this treatment condition.

It is noted that Lubbock (Area I) and Tucson (Area III) have statistically higher means (.01 level of confidence) as compared to

Phoenix (Area IV), Santa Maria (Area V), and San Diego (Area VI) on the Class-Video without Teacher Condition, based on the first criterion measure (Oral English Usage).

On the second criterion variable (Oral English Comprehension), again Lubbock (Area I) and Tucson (Area III) show higher means (.01 level of confidence) as compared to the other geographical areas, except San Diego (Area VI). San Diego, in this case, appears significantly higher than Phoenix (Area IV) and Santa Maria (Area V) and only slightly lower than Lubbock and Tucson.

Tables X and XI show a closer relationship between the six geographical area means. The means for Oral English Usage relative to this treatment condition (Class-Video with Teacher) are nearly equal in Areas I, II, III, and IV (Lubbock, El Paso, Tucson, and Phoenix). Area IV (Tucson) shows the highest and most significant difference (.01 level of confidence) as compared to all of the other areas, while San Diego (Area VI) has the lowest reading.

Higher means again are indicated for Oral English Comprehension as compared to Oral English Usage. This relationship is consistently noted among all of the areas. Area III (Tucson) again appears significantly higher (.01 level of confidence) than all of the other areas. In this analysis, Area V (Santa Maria) has the lowest mean, but significantly different only in comparison to Areas I (Lubbock) and III (Tucson).

TABLE X

Area Means on the Class-Video with Teacher Condition and Two Criterion Variables

Areas	n	Oral English Usage			Oral English Comprehension		
		Pre-Mean	Post-Mean	Adjusted Mean	Pre-Mean	Post-Mean	Adjusted Mean
I	48	15.26	20.17	18.78	17.09	26.67	26.39
II	16	19.19	21.25	17.46	27.38	28.31	22.79
III	23	9.35	24.52	27.09	9.52	30.91	35.07
IV	21	13.24	19.76	19.06	16.29	24.95	25.18
V	7	5.43	14.43	19.04	6.29	16.29	21.70
VI	33	11.06	13.91	15.08	19.09	24.18	22.96

TABLE XI

Significant Differences Between Area Means in the Class-Video with Teacher Condition and Two Criterion Variables

	Oral English Usage by Areas						Oral English Comprehension by Areas					
Areas	I	II	III	IV	V	VI	I	II	III	IV	V	VI
I			**			**			**			*
II			**						**			
III	**	**		**	**	**	**	**		**	**	**
IV			**			**			**			
V			**				*		**			
VI			**	**					**			

* Denotes Significant Difference at the .05 Level of Confidence
** Denotes Significant Difference at the .01 Level of Confidence

The foregoing analysis clearly shows that achievement in Oral English Usage and Oral English Comprehension, using video programs, varies among different geographical areas. The proximity to Mexico, as well as the nature of the population (rural versus urban), tends to reflect a lower English proficiency.

Oral English Achievement Based on Two Criterion Variables, Using Pretest and Post-test Scores for Each of Three Treatment Conditions and Six Geographical Areas

The most important statistical analysis in this study is the ascertaining of oral English achievement in terms of three video-type conditions.

The statistical data in Table XII show that significant achievement in Oral English Usage and Oral English Comprehension occur among the three treatment conditions, all at the .01 level of confidence.

TABLE XII

Oral English Achievement Based on Two Criterion Variables, Using Pretest and Post-test Scores for Each of Three Treatment Conditions Across Six Geographical Areas

	Oral English Usage					Oral English Comprehension				
Treatment Conditions	Pre-test	Post-test	F Ratio	Prob.	N	Pre-test	Post-test	F Ratio	Prob.	N
Home-Video	10.24	15.67	42.46	**	214	12.72	19.49	42.62	**	214
Class-Video Less Teacher	9.93	17.18	65.18	**	142	12.20	22.64	77.78	**	142
Class-Video Plus Teacher	13.06	19.34	41.99	**	147	16.84	26.32	63.35	**	149

** Denotes Significant Difference at the .01 Level of Confidence

An additional analysis was undertaken to determine if the foregoing findings also are apparent in each geographical area. Tables XVII, XVIII, and XIX in Appendix B reveal that significant gains, generally at the .01 level of confidence, occur in all of the geographical areas in the study. This analysis includes all six geographical areas and conditions, except Condition II in El Paso. Post-test data was unavailable from this area, relative to this condition, because of excessive student attrition.

Based on the aforementioned findings, it is concluded that the Video Oral Language Program produced at the University of Arizona, coupled with administrative elements by the SWCEL, provides a significant learning effect among non-English speaking, Mexican American adults.

Rural and Urban Population Differences in Oral English Proficiency

A secondary analysis was performed to determine the differences in Oral English Usage and Oral English Comprehension between non-English speaking Mexican American adults classified as rural or urban. This analysis involved the total sampling population in the study.

TABLE XIII

Rural and Urban Population Differences on Oral English Proficiency Across Six Geographical Areas, Using Two Criterion Variables

Criterion Tests	Oral English Usage			Oral English Comprehension		
	Rural	Urban	Probability	Rural	Urban	Probability
Pretest Mean	8.54	16.24	**	12.40	17.20	**
Post-test Mean	9.80	22.01	**	14.97	21.67	**
Adjusted Mean	11.53	20.92	**	18.18	19.65	**

** Denotes Significant Difference at the .01 Level of Confidence

Clearly, the findings show the urban people scoring significantly higher (.01 level of confidence) as compared to the rural people. The findings are further substantiated by significant differences indicated on both pre- and post-test means.

It is conceivable that rural people do not get the English communication exposure (via association and mult-media) as compared to urban people.

This might suggest other supplementary aids (audio, paper-pencil, etc.) which will tend to increase language exposure to the rural Mexican American population.

Sex Differences in Oral English Proficiency

A second secondary analysis was given to ascertain differences between male and female students in the learning of Oral English. Table XIV represents the means and significant differences between the sexes on two criterion variables.

TABLE XIV

Sex Differences in Oral English Proficiency Across Six Geographical Areas, Using Two Criterion Variables

	Oral English Usage			Oral English Comprehension		
Criterion Tests	Male	Female	Probability	Male	Female	Probability
Pretest Mean	12.15	15.48	**	15.00	15.74	(NS)
Post-test Mean	14.88	18.92	**	17.68	22.85	**
Adjusted Mean	15.94	18.33	*	18.20	20.56	**

* Denotes Significant Difference at the .05 Level of Confidence
** Denotes Significant Difference at the .01 Level of Confidence
(NS) Denotes Insignificant Difference at the .05 Level of Confidence

The foregoing table shows significant differences (.05 or .01 level of confidence) between the sexes on all criterion means except one. Only the Oral Comprehension pretest analysis shows a close relationship between the sexes; however, the differences between the sexes is again apparent in comparing the Oral Comprehension post-test means.

Further research is needed to identify other variables that may account for this difference. For example, are women more verbal than men in the Mexican American community? That is, do they tend to communicate and/or practice in English to a greater extent than men? These and other possible questions need to be researched.

Student Attitude Toward Learning and Usage of English

A statistical analysis was performed to determine change in attitude toward learning and applying English and to ascertain differences between the three treatment conditions. Table XV presents the pretest and post-test analysis for each treatment condition in these geographical areas, and Table XVI gives the data relative to mean differences between the three treatment conditions.

Three of the six geographical areas in the study are covered in the statistical analysis; this includes approximately fifty percent of the total sampling.

TABLE XV

Statistical Comparison Between Pretest and Post-test Means in Attitude Toward Learning and Applying English

Areas	Treatment Conditions	Pretest	Post-test	Adjusted Post-test	Probability
I	I	25.58	24.13	24.14	(NS)
	II	22.52	26.84	26.79	*
	III	25.33	26.96	26.97	(NS)
II	I	25.33	22.49	23.22	(NS)
	II	(NI)	(NI)	(NI)	(NI)
	III	29.38	29.63	27.30	(NS)
IV	I	26.73	26.58	27.17	(NS)
	II	27.31	25.94	26.20	(NS)
	III	31.19	26.29	24.31	*

* Denotes Significant Difference at the .05 Level of Confidence

(NS) Denotes Insignificant Difference at the .05 Level of Confidence

(NI) Not Included in this Statistical Treatment Because of Excessive Student Dropout

Only in two conditions and in two geographical areas is a change in attitude significantly noted (.05 level of confidence); however, one appears positive and the other negative in direction. Consequently, it can be concluded that based on the type of instrument used in this study, the analysis shows that the five video programs, in general, produce no significant changes (.05 level of confidence) between pretest and posttest scores on this criterion variable.

Table XVI illustrates a very close relationship between treatment condition means for the three geographical areas given in the analysis. The statistical treatment of the data reveals insignificant differences (.05 level of confidence) between the three treatment conditions, based on attitude toward learning and applying English as a criterion variable.

Since it is conceivable that five video exposures may not provide sufficient proficiency in Oral English to effect a change in attitude toward learning and applying English, further research on this variable involving a longer treatment exposure (e.g., fifteen video programs), is suggested. Additionally, a revision of the instrument might be undertaken to include more items relative to this variable.

TABLE XVI

Differences Between Three Treatment Conditions in Three Geographical Areas, Based on Attitude Toward Learning and Applying English

Geographical Areas	Adjusted Post-test Treatment Means			Probability
	I	II	III	
I	24.14	22.05		(NS)
	24.14		26.76	(NS)
		22.05	26.76	(NS)
II	23.22		27.13	(NS)
	(NI)	(NI)	(NI)	
	(NI)	(NI)	(NI)	
III	27.17	26.20		(NS)
	27.17		24.31	(NS)
		26.20	24.31	(NS)

(NS) Denotes Insignificant Difference at the .05 Level of Confidence

(NI) Not Included Because Condition II (Student Attrition) is not Represented

Population Mortality per Geographical Area and Treatment Condition

A simple analysis was performed to determine the number and percentage of dropouts per geographical area and in each treatment condition. Table XX in Appendix C presents the statistical data relative to this factor. It is noted that the highest dropout (39.1 percent) occurred in Treatment Condition III (Class-Video with Teacher). Although Treatment Condition II (Class-Video without Teacher) had 100 percent mortality in El Paso, the overall dropout for this treatment measured only 35.6 percent as compared to a slightly higher percentage given for Treatment Condition III. The data show Treatment Condition I with the lowest mortality percentage (32.5 percent). Further, the total dropout percentage using this instructional medium (including all areas and conditions) is measured at 35.7 percent; that is, about 64 percent of the total population remained in the program.

Several noteworthy observations can be drawn from the foregoing analysis. Treatment Condition II, with additional instructional time provided by a teacher in the classroom scene, had the highest dropout percentage. The mortality percentage for Conditions I and II were relatively close (32.5 and 35.6); therefore, these two conditions appear advantageous in terms of student retention. Moreover, the Home-Video Condition, without class facilities and supplementary instruction, presents less of an administrative problem, while it has the potential of reaching a large portion of the target population.

Finally, the population data show a total of 925 students initially recruited, with 563 remaining in the program. This is an important indication of the recruiting potentiality of the video programs. And with additional time, a larger number of students would have been possible.

Summary, Conclusions, and Recommendations

The statistical findings show a close relationship between the three treatment conditions relative to learning English (Oral English Usage and Oral English Comprehension) through the video programs in this study. The Class-Video with Teacher Condition appears slightly higher than the Class-Video without Teacher Condition in some aspects of the analysis. Overall, however, the differences in effect between the three treatment conditions do not vary significantly. It is important to observe that the effects of the Class-Video with Teacher and Home-Video Conditions are relatively close. Further, it is significant to note that the Home-Video and Class-Video without Teacher Conditions did not include additional language instruction by a teacher subsequent to each video program exposure. In this sense, the implications for selecting learning conditions through this type of medium clearly point in favor of Conditions I and II (Home-Video and Class-Video without Teacher).

A simple analysis was undertaken to determine population mortality per geographical area and in each treatment condition. The highest dropout percentages occurred in El Paso and San Diego (58.7 and 49.7 respectively). And in spite of inclement weather in Phoenix and Santa Maria, these areas retained approximately 70-74 percent of the students. Thus, the percentage of dropouts varied between the six geographical areas.

More importantly, the mortality percentage for Conditions I and II were relatively close (32.5 and 35.6); therefore, these two conditions appear advantageous in terms of student retention. Moreover, the Home-Video Condition, without class facilities and supplementary instruction, presents less of an administrative problem, while it has the potential of reaching a large portion of the target population.

Another important indication revealed in the population data is the recruiting potentiality of the video programs. The findings show that 925 students were initially recruited, with 563 remaining in the program. And with additional time, a larger number of students would have been possible.

To ascertain the differences between the six geographical areas on two criterion variables (Oral English Usage and Oral English Comprehension), a one-way analysis of variance, coupled with an analysis of covariance to adjust post-test means, was used. The statistical data clearly show that achievement in Oral English Usage and Oral English Comprehension, using the instructional medium (video) in this study, varies among different geographical areas. The proximity to Mexico tends to reflect a lower English proficiency, as well as the nature of the population (rural versus urban). A secondary statistical analysis reveals significant differences between rural and urban population, clearly in favor of the urban population.

The most important observation in this study is the ascertaining of oral English achievement in terms of three video-type learning conditions. The statistical data show that significant achievement in Oral English Usage and Oral English Comprehension occur among the three treatment conditions, all at the .01 level of confidence. This relationship is apparent in each geographical area in the study. Based on these findings, it is concluded that the Video Oral Language Program produced at the University of Arizona, coupled with administrative elements by the SWCEL, provides a significant learning effect among non-English speaking, Mexican American adults.

One of the secondary analyses indicates significant sex differences on two given criterion variables (Oral English Usage and Oral English Comprehension), with the female specie scoring higher than the male. Further research is suggested to identify other variables that may account for this difference.

A statistical analysis was performed to determine change in attitude toward learning and applying English and to ascertain differences between the three treatment conditions. The statistical data show insignificant differences (.05 level of confidence) between the three treatment conditions, based on this criterion variable. The findings also show that the five video programs, in general, produce no significant changes (.05 level of confidence) between pre-test and post-test scores on this criterion variable.

Since it is conceivable that five video exposures may not provide sufficient proficiency in oral English to effect a change in attitude toward learning and applying English, further research on this variable, involving a long treatment exposure (e.g., fifteen video programs), is suggested. Additionally, a revision of the instrument might be undertaken to include more attitudinal items relative to this variable.

Further field testing of the video programs is recommended to ascertain their instructional effectiveness over a longer treatment exposure (e.g., fifteen video programs) and on a more distributed time base. Thus, the video tapes might be tested in terms of fifteen consecutive exposures, or based on one, two, or three exposures per week. A comparative analysis would then be undertaken to determine instructional differences in terms of a differentiated time base.

Since paper-pencil materials relative to the video lessons will be available in the year 1969-70, this feature might be included to provide a fourth testing condition. Further, the 1969-70 field testing might be expanded to cover a broader geographical base and population types. For example, Cubans in Florida and Puerto Ricans in New York might be included in future research undertakings.

The 1969 field testing scheme and the statistical design have provided much relevant and significant information for further development of the University of Arizona video programs. More importantly, the findings, undoubtedly, are tremendously noteworthy to agencies and institutions which are searching for instructional media and learning conditions relative to oral English development for non-English speaking adults.

Appendix A: Field Testing Instrument

FIELD TESTING INSTRUMENT

ADULT BASIC EDUCATION PROJECT

SOUTHWESTERN COOPERATIVE EDUCATIONAL LABORATORY

University of Arizona English Language
Video Tapes for Non-English Speaking
Spanish Surnamed Adults

Prepared by
The Southwestern Cooperative Educational
Laboratory Field Testing Instrument
Committee
January, 1969

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(vocabulary)

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(asking questions)

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(geographical and personal identification)

English Comprehension II 6
(responding to questions--using personal pronouns and vocabulary relative to physiological needs)

English Comprehension III 8
(using personal pronouns--first and third person singular, plural, masculine and feminine)

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University of New Mexico

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AAValencia
Dr. Atilano A. Valencia, Coordinator
Field Testing Committee in ABE
SWCEL

SUPPLEMENTARY INFORMATION

Nombre ______________________________

Dirección ______________________________

Número de Teléfono ______________________

Sexo: Hombre __________ Mujer __________

Edad: __________

¿Cuantos años de escuela completo? ______________

¿En Dónde? ______________________________

Ocupación: ______________________________

Rural: __________ Urban: __________

Television: Black and White __________

Color __________

Testing Condition:

Home (video exposure only) ______________

Class (video exposure only) ______________

Class (video exposure and teacher) __________

Pre-test (Date) ______________

Post-test (Date) ______________

Tapes viewed:
Monday __________
Tuesday __________
Wednesday __________
Thursday __________
Friday __________

____
Name of Examiner

FIELD TEST INSTRUMENT

FOR

UNIVERSITY OF ARIZONA VIDEO TAPES

OPINION QUESTIONNAIRE

Cree Ud. que una persona en una situación como la suya--

	1 Strong Minus (-)	2 Mild Minus (-)	3 Mild Plus (+)	4 Strong Plus (+)
1. Pueda obtener empleo sin hablar nada de Inglés?				
2. Pueda aprender inglés a su edad?				
3. Pueda entenderse por un Americano después de haber tomado solamente 15 lecciones en inglés?				
4. Pueda llegar a encargarse de un trabajo y de otros trabajadores?				
5. Debe hablar inglés con su esposa?				
6. Debe hablar inglés con sus hijos?				
1. Cree usted que el no saber inglés afecta mucha a su vida?				
2. Cree usted que el individuo que vive en Los Estados Unidos tiene la obligación de aprender hablar el inglés?				
3. Ha tenido ocasión en la que usted no fue (o no entró) a algún lugar, o algún negocio, etc., por que no sabía hablar el inglés.				

PREVIOUS SCHOOLING

1. Ha tratado de aprender el inglés anteriormente? ____________________

   ____

2. Dónde trató de aprender el inglés? ______________________________

   ____

3. Qué tanto tiempo estudió? ______________________________________

   ____

4. Como le gustó el método que usaron? ____________________________

   ____

5. De qué manera le gustaría aprender el inglés? ____________________

   ____

ENGLISH USAGE I

Como se dice __________ en inglés?

				2	1	0
1.	quién	Response:	who			
2.	dónde	Response:	where			
3.	qué	Response:	what			
4.	cómo	Response:	how			
5.	yo	Response:	I			
6.	mi	Response:	my or me			
7.	usted	Response:	you			
8.	su	Response:	your			
9.	nosotros	Response:	we			
10.	nuestro	Response:	our			
11.	él	Response:	he			
12.	ella	Response:	she			
13.	ellos	Response:	they			
14.	ellas	Response:	they			
15.	de ellos	Response:	their			

ENGLISH USAGE II

Yo le voy a decir una frase en español. Escuche bien la frase y dígame lo que significa en inglés.

Ejemplo: Qué quiere decir "Que Tal" en inglés? (The response of the interviewee should be "Hello".)

	2	1	0
1. Cómo se llama usted? (Response: What is your name?)			
2. Dónde vive? (Response: Where do you live?)			
3. Cómo está usted? (Response: How are you?)			
4. Cómo se llama él? (Response: What is his name?)			
5. Se llama Pedro. (Response: His name is Pedro.)			
6. Él vive en Los Angeles. (He lives in Los Angeles.)			
7. Qué necesita ella? (What does she need?)			
8. Cómo se llama ella? (What is her name?)			
9. Dónde vivimos nosotros? (Where do we live?)			
10. Dónde trabajan ellos? (Where do they work?)			

ENGLISH COMPREHENSION I

Ahora quiero que usted me conteste en una frase inglés.

Ejemplo: "Hello, How are you?" (Response: "Fine, thank you.") *

1. Where do you live? (Response: I live in __________.)

2. What is your name? (Response: My name is __________.)

3. Who are you? (Response: I am ________.)

4. Who am I? (Interviewer points to himself) (Response: You are __________.)

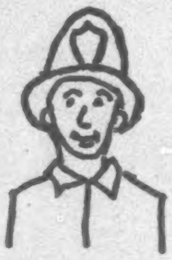
2	1	0

* (If necessary, give the example in Spanish; however, make certain that the interviewee understands that his response must be in English.)

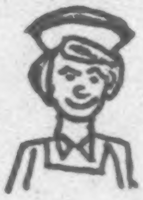
ENGLISH COMPREHENSION II

Le voy a enseñar unos retratos. También le voy a hacer unas preguntas, contéstelas en inglés.

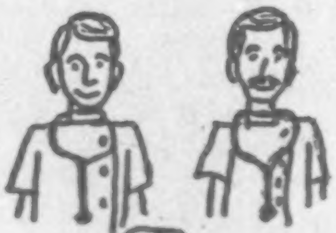
Ejemplo:
What is he?



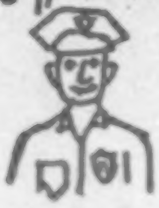
1. What is she?



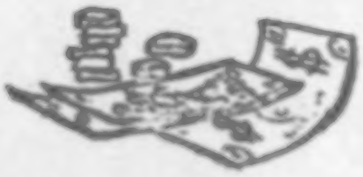
2. What are they?



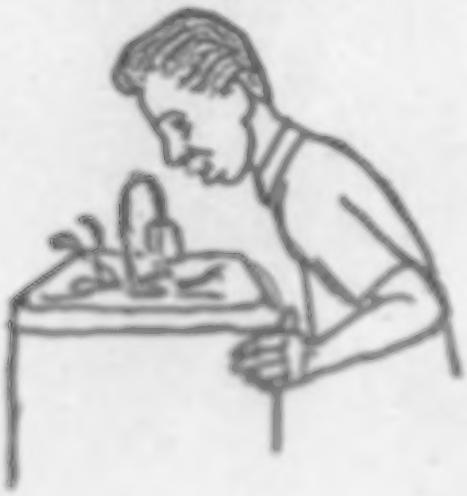
3. What is he?



4. What is this?

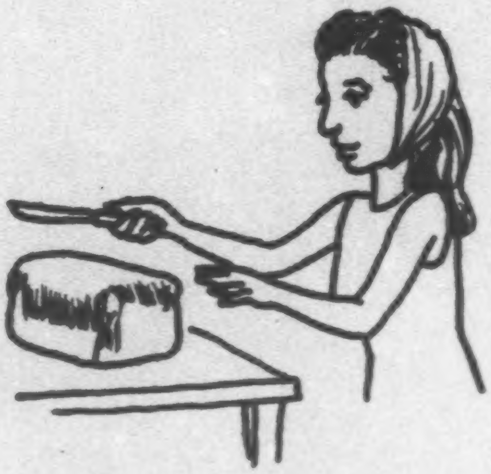


5. What does he need?

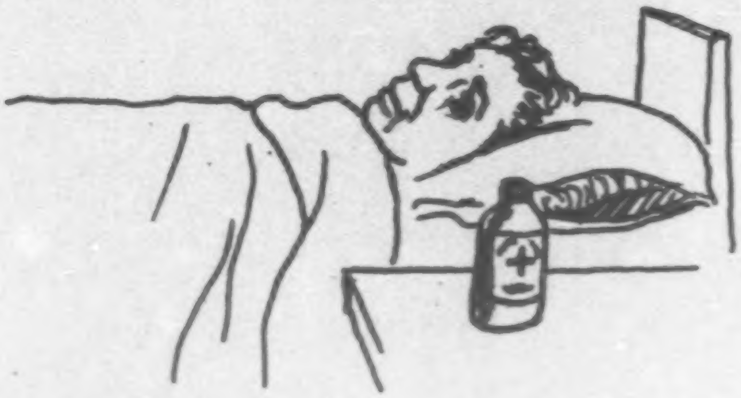


2	1	0

6. What does she need?



7. What does he need?



2	1	0

ENGLISH COMPREHENSION III

Instructions to Examiner:

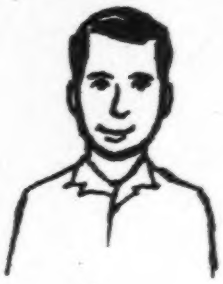
The example can be given in Spanish; however, make certain that the interviewee understands that his response must be in English. Also, make certain that the interviewee understands that hypothetical names and places can be used to complete the responses.

Instructions to Examinee:

La siguientes preguntas deben contestarse en oraciones completas y en inglés. Se puede contestar a las preguntas con cualquier nombre o cualquier lugar.

Por ejemplo:

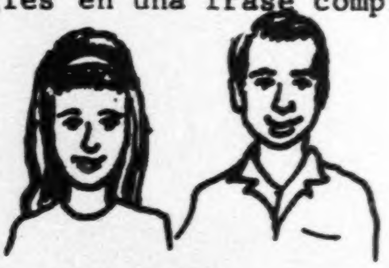
¿Cómo se llama el?



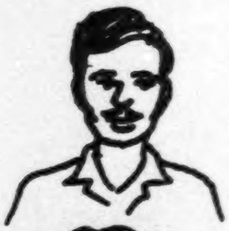
Respuesta: El se llama José.

Aunque el ejemplo se le ha dado en español, las preguntas son en inglés y usted debe contestar en inglés en una frase completa.

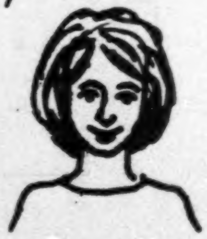
1. What are their names?



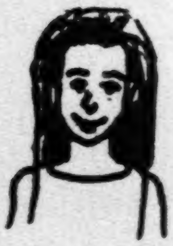
2. What is his name?



3. What is her name?

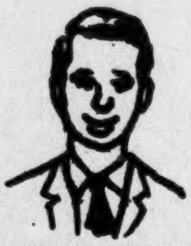


4. Where does she live?

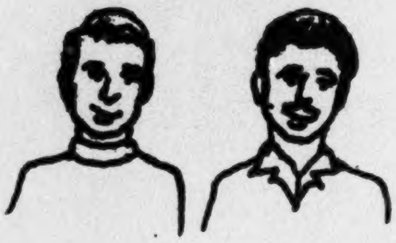


2	1	0

5. **Where does he live?**



6. **Where do they live?**



7. **What is my name?**
(Examiner points to self)

2	1	0

Appendix B: Statistical Tables XVII, XVIII, and XIX

TABLE XVII

Oral English Achievement Based on Two Criterion Variables, Using Pre-test and Post-test Scores for the Home Treatment Condition Among Six Geographical Areas

		Oral English Usage			Oral English Comprehension		
Areas	n	Pre-Mean	Post-Mean	Significance	Pre-Mean	Post-Mean	Significance
I	48	12.69	20.27	**	17.23	25.77	**
II	55	9.89	11.11	**	12.40	14.31	*
III	17	7.18	18.71	**	8.06	20.06	**
IV	55	11.38	18.25	**	13.58	22.58	**
V	31	4.77	9.68	**	4.65	11.03	**
VI	8	17.75	18.38	**	23.13	27.75	**

* Denotes Significant Difference at the .05 Level of Confidence
** Denotes Significant Difference at the .01 Level of Confidence

TABLE XVIII

Oral English Achievement Based on Two Criterion Variables, Using Pre-test and Post-test Scores for the Class-Video without Teacher Treatment Condition Among Five Geographical Areas

Areas	n	Oral English Usage			Oral English Comprehension		
		Pre-Mean	Post-Mean	Significance	Pre-Mean	Post-Mean	Significance
I	31	13.81	21.94	**	17.68	28.74	**
II		.00	.00		.00	.00	(NI)
III	30	6.53	16.27	**	9.23	23.60	**
IV	35	9.83	13.89	**	9.69	15.86	**
V	59	3.27	8.47	**	3.32	8.56	**
VI	46	9.61	17.09	**	12.35	23.07	**

** Denotes Significant Difference at the .01 Level of Confidence
(NS) Denotes Insignificant Difference at the .05 Level of Confidence
(NI) Not Included in this Statistical Treatment Because of Excessive Student Dropout

TABLE XIX

Oral English Achievement Based on Two Criterion Variables, Using Pre-test and Post-test Scores for the Class-Video with Teacher Treatment Condition Among Six Geographical Areas

		Oral English Usage			Oral English Comprehension		
Areas	n	Pre-Mean	Post-Mean	Significance	Pre-Mean	Post-Mean	Significance
I	48	15.26	20.17	**	17.09	26.67	**
II	16	19.19	21.25	*	27.38	28.31	**
III	23	9.35	24.52	**	9.52	30.91	**
IV	21	13.24	19.76	**	16.29	24.95	**
V	7	5.43	14.43	**	6.29	16.29	**
VI	33	11.06	13.91	**	19.09	24.18	**

* Denotes Significant Difference at the .05 Level of Confidence
** Denotes Significant Difference at the .01 Level of Confidence

Appendix C: Table XX -- Population Mortality per Geographical Area and Treatment Condition

TABLE XX

Population Mortality per Geographical Area and Treatment Condition

Treatment Conditions	Lubbock		El Paso		Tucson		Phoenix		Santa Maria		San Diego		TOTALS			Drop Out %
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Drop Out	
Home-Video	57	48	60	55	50	17	60	55	40	31	50	8	317	214	103	32.5
Class-Video Less Teacher	47	31	60	0	35	30	47	35	60	59	63	46	312	201	110	35.6
Class-Video Plus Teacher	66	48	52	16	35	23	43	21	40	7	60	33	296	148	148	39.1
TOTALS	170	127	172	71	120	70	150	111	140	97	173	87	925	563	362	35.7
Area Dropout	43		101		50		39		43		86		362			
Dropout %	25.3		58.7		41.6		26.0		30.7		49.7		35.7			